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PRELIMINARY REPORT ON FINDS OF SUPPOSEDLY ANCIENT HUMAN REMAINS AT VERO, FLORIDA

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On the kind invitation of Dr. E. H. Sellards, state geologist of Florida, and as his guest, the writer in the latter part of October, 1916, spent four days at Vero, Florida, where his time was devoted to the study of the site from which certain human bones described by Dr. Sellards were obtained, and to a preliminary examination of the bones themselves.

Generous assistance in this work was rendered by Dr. Sellards and his associate, Mr. Gunter, as well as by the two local gentlemen most directly interested in these finds, namely, Messrs. Ayers and Weills, to whom the writer wishes to express his grateful acknowledgments.

On arriving at Vero the writer engaged workmen and with their aid made a clean exposure about 160 feet in length of the geological deposits in close proximity to the spots where the human bones had been discovered. This afforded a comprehensive and enlightening view of all the formations involved.

The two human skeletons had been found in the south bank of a recently excavated drainage canal. They occurred one in fairly close proximity to, and the other within the broad shallow bed of, a small fresh-water stream, now drained by a lateral cut from the canal. The former lay in dark and somewhat indurated sands, layer No. 2 of Sellards, the latter for the most part at the base of layer No. 3, the muck deposit of the stream bed, and "between this and the next older stratum" (Sellards). A few smaller bones which probably belonged to the second skeleton were found at about the same level and at a short distance from the rest of the remains in a small elevation of the irregularly eroded upper surface of the lower sandy layer No. 2.

The first skeleton lay at the depth of two and a half feet, the second at the depth of from two to possibly three and a half feet from the surface.¹ The first was found accidentally and taken out by Messrs. Ayers and Weills, before Dr. Sellards was notified, and before any great importance was attached to the find. The character of the deposits above it was not especially noticed, but there is no reason for supposing that they differed from those in the neighborhood, where layer No. 2 is seen to be overlain by a stratum of similar, but somewhat lighter, sandy deposits covered by a layer of marl. This marl ranges at this point from about 5 to 9 inches in thickness, and when freshly exposed is of the consistency of fresh mortar, but on exposure hardens to fairly solid rock. With some wind-blown white sand and vegetable material it forms the surface of the ground.

The second skeleton lay, according to all obtainable information, in some loose white sand and vegetable matter at the base of the muck layer, No. 3, of the stream bed. Above, up to the surface, there was only muck with irregular sandy patches. In a vertical cut these localized deposits or patches give the muck an appearance of unconnected irregular lamination, but there are no actual strata.

Skeleton No. I is that of a woman, possibly sub-adult. Skeleton No. II is that of a man, an adult of somewhat advanced years. The bones of the former, according to Mr. Ayers, who discovered and extracted them, "were all close together, the whole layer not being over one and one-half feet in width. They were not scattered at all, nor piled up." The various parts lay side by side or next to one another in about the position they would occupy in the body. The bones of skeleton No. II were dissociated, though lying within an ellipse apparently about 7 feet in length, not counting the two bones and two or three fragments found in the upper part of layer No. 2, about 6 feet away. As some of the bones of the skeleton tumbled out of the bank before the rest were removed, only a smaller portion of the parts representing the skeleton were examined

¹ In Dr. Sellards' report on the find, in the *8th Ann. Rep. of the Fla. St. Geol. Survey*, p. 142, the depth is given as 4 feet, which is evidently an error; the depth indicated in Dr. Sellards' illustrations, especially that on p. 141, is less than this.

in situ and their exact association must remain in a large measure uncertain. The skeleton lay in an inclined plane. The bones show no trace of washing or weathering. The majority of them are broken, but many of the breaks are sharp and evidently fresh,



FIG. 1.—Top view of skull of skeleton No. II, from the base of muck bed (layer No. 3), south bank of the drainage canal, Vero.

c=clay; portion of frontal bleached by exposure.

dating probably from the time when parts of the skeleton were exposed in the bank or tumbled out of it.

Bones of three other individuals are found in the collection made by Dr. Sellards' party. They are a juvenile or a young adult incisor tooth from layer No. 3, in the vicinity of skeleton No. II; a tooth of a young child from stratum 3 on the opposite

or north side of the canal, and a toe bone of an adult, also from the north side of the canal.

In the muck layer on the south side, in the base of which skeleton No. II occurred, there were found, according to Dr. Sellards, "an abundance of pottery, many bone implements, arrowheads, and other small flints."

Speaking further on this point, Dr. Sellards says (p. 143):

A considerable amount of broken pottery is found in this horizon, particularly at the locality on the south bank 450 to 475 feet [bones of skeleton No. II were located from about 460 to 473 feet] west of the bridge. Bone implements are also numerous and were made evidently to serve a diversity of purposes. Well-worked flint arrowheads are found also, as well as occasional spalls from the manufacture of flints. The pottery, flints, and bone implements, however, are not confined to this locality on the south bank, but are found also in the same horizon on the opposite side of the canal.

A few small flints and two bone implements were found in stratum No. 2 (p. 140). The flint of the several chips and implements, which must have been brought from a considerable distance, is quite similar in the two deposits; and the bone implements of the two sections seem identical in character.

The portion of the muck of the stream bed on the south side of the canal nearest where the bones of skeleton No. II were discovered was found to be a moderately compressed, wet mass of leaves and other detritus. Many of the leaves, though generally imperfect, were still so pliable that they could be unfolded and straightened out, and were still fairly elastic. In this muck are trunks of trees and branches or roots, partly in a fair state of preservation, partly softened or rotted.

During the clearing work carried on by the writer, fossil animal bones were found to be fairly numerous in layer No. 2, beneath the muck of the stream bed. There were uncovered possibly several hundred specimens of this nature. They were isolated, small and large fragments, some apparently waterworn, with a few individual bones, and parts of turtle shells. The largest individual specimen was the tooth of a large herbivore. Two or three fragmentary fossilized bones were also obtained from a sandy band in the lowest portion of the muck deposit.

The foregoing comprises in brief the writer's personal observations at Vero, with the exception of those on the human bones themselves. After a careful weighing of the facts, both on the spot and afterward, he regrets that he cannot agree with the conclusions reached by Dr. Sellards as to their antiquity. It seems to him that there is another possible and more likely explanation of their occurrence in the deposits than that which would make

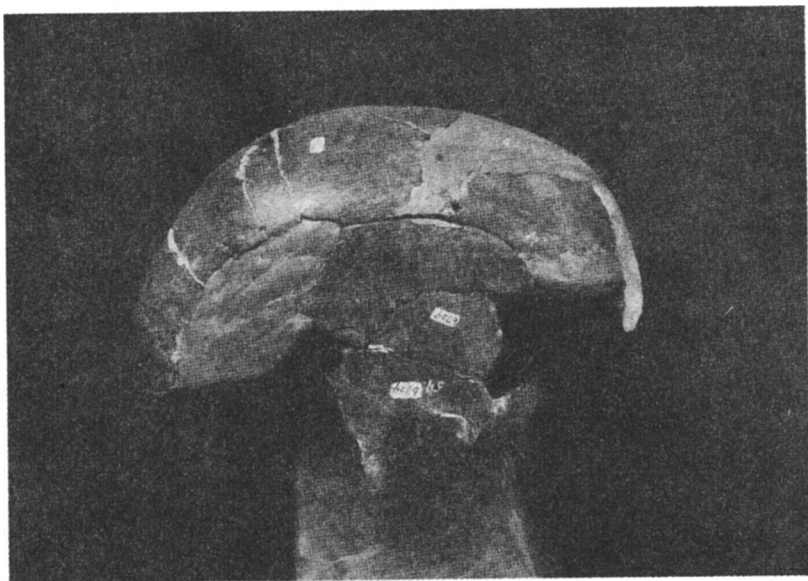


FIG. 2.—Right side of skull belonging to skeleton II (frontal bone, light from exposure, on the right, occiput on the left).

them contemporaneous with the various fossil animals the remains of which are found in the same layers, and some of which may date from the middle or even early Pleistocene.

A relatively small amount of work brought to light the remains of five human individuals—a small child, an adolescent or young adult, a young woman, and two adult men. In the vicinity of these occurred a quantity of pottery fragments, resembling closely the usual Florida variety, bone implements, and stone implements with chips, and all in proximity to, or in, the bed of a

fresh-water stream. To the anthropologist the various finds strongly suggest an ordinary "station," or inhabited site, with burials of probably prehistoric, but not necessarily very ancient, man, whose culture horizon corresponded to that of the ordinary American aborigines of the eastern and southeastern states.

The two human skeletons occurred at nearly the same depth, which would be about that of a common Indian burial. The bones of the one were in close and natural association; those of the other, buried in or just below the unstable muck, though dissociated, yet remained fairly well aggregated, preserving some original relations. The condition of these remains, contrasted with that of the animal fossils with which they were associated, is instructive. The number of individual fossil animal specimens recovered by the local explorers, Dr. Sellard's party, and the visiting scientists would doubtless reach several thousands, and they were with a few exceptions isolated bones or teeth or mere fragments, many of which were hardly worth collecting.

The occurrence of isolated fossil animal bones or fragments in contact with, or even above, the human skeleton would have no significance. In digging a grave the earth thrown out might well contain fossils even of considerable size, which, after the body was introduced, would be thrown in about or above it.

The apparently undisturbed condition of the partial and irregular sandy layers which occur in the muck where skeleton No. II was discovered could hardly be regarded as sufficient proof that the bones were not introduced from above. The muck and sand thrown in over a body would tend in the course of time so completely to assume the appearance and characteristics of the original deposits that distinction between the two would be quite impossible. Very good examples of restratification and striation are seen at Vero in the accumulations thrown out from the canal by the dredges.

The human bones are considerably "fossilized." But they are not fossilized equally in the two skeletons,¹ nor even in the different parts of one and the same skeleton. The mineralization also is not

¹ The considerably smaller female astragalus weighs 26 grams, the much larger male bone but 20.7 grams.

quite like that of the animal bones from the same deposits, though the approach, especially in parts of skeleton No. II, is close. Even if they were identical, however, in this respect, the fact could not be taken as a gauge of their contemporaneity with the animal bones. Mineralization is a chemical-mechanical process, which runs its course slowly or rapidly, according to circumstances. Under similar conditions two bones, ages apart, would "fossilize" in a similar manner; but one of the bones would have completed the process long before the other. The writer has dealt with this subject in his report on "Ancient Man in North and South America."¹ In the corresponding work on North America will also be found described examples of human bones, petrified in different ways, from the west coast of Florida. One of the skeletons from that locality, in the possession of the United States National Museum, is apparently even more completely petrified than the human bones from Vero. In Florida, mineralization of bones or their inclusion in geological deposits has little chronological significance.

The "fresh-water marl" that covers the deposits in the locality of skeleton No. I is not found over the muck layer, or layer No. 3, from which came skeleton No. II, but the point is immaterial. The layer, except where exposed, is not or is but partly consolidated; and even if it were solid it would have little bearing on the antiquity of whatever may lie underneath. The writer found a very good demonstration of this after he left Vero, on the Demere Key, off Fort Myers on the west coast of Florida, and not very far south of the latitude of Vero. He found there a low sand burial mound the entire surface of which, consisting of sand, organic matter and shells, materials gathered from the vicinity of the mound and from the seashore, was consolidated to the depth of from four to sixteen inches to such a degree that in places it was almost impossible to penetrate it with a mattock. This "rock" included numerous human bones, even skulls, a series of which is now in the National Museum. Its age is possibly post-Columbian, for there were found on the Key fragments of Spanish pottery and glass, while burial sand mounds on neighboring keys yielded glass beads.

¹ *Bureau American Ethnology Bulls.* 33 and 52.

In considering these problems the anthropological characteristics of the bones themselves deserve serious consideration. They now lie before the writer, and he has not found as yet a single feature in which they would not agree with recent, more especially Indian, bones. The juvenile or young adult incisor tooth presents in a typical way the highly specialized characteristic form of the Indian middle upper incisor; what there is of the lower jaw is wholly of modern form; the skull of skeleton No. II by its lack of thickness, good size, and subdued supraorbital ridges is actually of a type superior to that of a large majority of the Florida Indians; and the shape and dimensions of the other bones are those of a man of the present day. There is nothing which would remind the anthropologist of early man.

In conclusion the writer wishes to submit that besides all the foregoing considerations there are broader anthropological and archaeological problems which should receive due attention in all cases of this nature. They are both cultural and anthropological, and their discussion must be reserved for the detailed report. It may, however, be here briefly pointed out that an advanced state of culture such as that shown by the pottery, bone implements, and worked stone (brought from a considerable distance) implies a numerous population, spread over large areas, acquainted thoroughly with fire, with cooking food, and with all the usual primitive arts. Such a population would surely have left many tangible traces of their presence on the Continent, some of which at least would by this time have been discovered.

It is the opinion of the writer, as the result of his investigations, that the human bones found at Vero may well be prehistoric, and date from the early part of the occupation of the Florida peninsula by the Indians; but that no proof is furnished by the circumstances of the find, or by the human bones themselves, which would relegate the latter to an antiquity comparable with that of the fossil remains with which they are associated.

ADDENDUM

While at Vero the writer obtained from Mr. Weills 20 fragments of pottery recovered from the Vero deposits. In addition to this, two fragments were obtained from the sand mound on the

Indian River. This pottery was submitted for examination to Professor Holmes, and his report follows:

December 1, 1916.

DEAR DOCTOR HRDLIČKA:

I have examined with great care the pottery fragments obtained from the site of the discovery of human remains associated with Pleistocene deposits near Vero, Florida. They represent moderately small, undecorated vessels, apparently simple bowls such as were in common use among the Indian tribes of Florida. Compared with corresponding plain vessel fragments from Florida sand mounds and from occupied sites generally, no significant distinctions can be made; in material, thickness of walls, finish of rim, surface finish, color, state of preservation, and size and shape of vessels represented, all are identical. There thus appears not the least ground in the evidence of the specimens themselves for the assumption that the Vero pottery pertains to any other people than the mound-building Indian tribes of Florida or to any other than Columbian and immediately pre-Columbian time.

Sincerely yours,

W. H. HOLMES

Head Curator, Department of Anthropology